METHOD AND ARRANGEMENT FOR DYNAMIC ALLOCATION OF NETWORK RESOURCES

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This invention relates to an apparatus for providing communications network resource.

In the past, networks -- in particular those used to support the Internet -- would share resources: the buffers of the routers and the line capacity of the connections between routers and hosts, between all network users. In the modern network it is desirable to divide the resource between different network traffic types. Rather than the shared service of the common Internet, network providers wish to divide the resource between the traffic types based on other characteristics such as their willingness to pay for service, their need for differing service quality or some combination of the two.

Network-elements (routers and switches) that employ resource partitioning, such as the division of link bandwidth between different classes of traffic, have used a scheduler that fixed, as part of its algorithm, the amount of the resource (outgoing bandwidth) to be allocated to each class.

As a result, traffic queued in network routers that was not serviced could be either delayed or lost as the queue filled and overflowed. In such a scheme the resources of buffer-space and the service-weights of the scheduler were allocated according to policy e.g. based on a simple priority scheme or with an assigned weighting based on the value of each traffic class.